

POLICY BRIEF

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Overcoming Energy Vulnerabilities in East Asia: Ways Forward

Conventional approaches to analysing East Asian energy security dynamics tend to begin and end with the identification of areas and sources of geopolitical competition and how potential military conflicts could arise from this. There is a tendency to relate energy security to power politics, while the extent of the interdependence in the energy and product trade chain among nation states in East Asia and the wider Asia-Pacific is often underestimated. Hence, while analytical perspectives that emphasise potential risks and problems are useful in understanding the nature of East Asian security challenges, it is necessary to also explore the often neglected dynamics of cooperation against a strategic environment defined by competition.

Cooperation is particularly important for the emerging economies of East Asia as they are largely dependent on a limited range of external energy sources, thus exposing them to vulnerabilities which could affect their level of socioeconomic development. To ameliorate such vulnerabilities, various avenues for cooperation, paths which could in turn contribute to managing conflict and competition in the region, could be explored.

This policy brief argues that cooperation in the areas of energy efficiency and alternative energy sources is vital, and can be possible in the East Asian region, so long as the weaknesses of existing initiatives are recognised and addressed.

Energy Supply Vulnerabilities

The existing supply of global and regional energy sources is vulnerable to two primary threats. Firstly, there is the threat to adequate and secure supplies of energy at affordable prices. The increasing volatility of energy supply has caused dramatic price changes, with serious implications for the availability and affordability of energy. This situation is essentially due to the lack of alternative supply sources.

Prior to the 1990s, certain resource-rich countries such as Russia exercised strict control on their energy resources. The Middle East, however, was open to foreign investment. Given these circumstances, the supply of crude oil to Asia has been predominantly from the Middle East, and Asian countries, which lack access to alternative supply sources, have had to pay a higher price – commonly known as the ‘Asian premium’ – as a result. This has had far-reaching impacts on the economic development of Asian countries. Higher oil prices reduced refining margins dramatically, leading to higher prices for other energy commodities, a financial burden of extra costs which

could potentially suppress economic and industrial activities and reduce the competitiveness of Asian economies. The Institute of Energy Economics, Japan (IEEJ) has estimated that the Asian premium imposed an additional annual burden of USD4 billion to USD8 billion on the Asian market. This, added to the lack of liquidity and transparency in the Dubai price formation process, the failure of oil-producing countries to have their adjustment factors respond adequately to the market when the Brent-Dubai differential narrows rapidly, the lack of competition from other suppliers and the rigidity of trading rules, only served to make the Asian oil market more vulnerable to geopolitical changes.

The second threat is environmental damage as a result of excessive energy consumption. Today, it is widely understood that economic development would be unsustainable in a scenario where no additional policy action is taken to counter global warming. Yet, world energy demand is forecast to grow 53 per cent from 2008 to 2035 due to continuing economic growth in developing countries requiring more energy resources to support their development and the resulting higher standards of living. East Asian countries would witness the most significant growth in energy demand, while increase in demand in the developed world would be marginal. As a result of the surge in energy consumption, carbon dioxide emissions would also go up rapidly, with China, India and the ASEAN region projected to be the source of much more of these emissions than other countries and regions.

The strong dependence on fossil fuels for economic development only exacerbates this threat, as it could only serve to increase the level of carbon emissions. In terms of oil, Japan and South Korea fully depend on imports. China and Indonesia used to be the main suppliers of low-sulphur crude oil to these countries. However, given their own rates of economic growth, China became a net oil importer in 1993 and Indonesia in 2004. In terms of coal, although China and India are major coal producers, their coal reserves are sliding. China in fact began to import coal in 2009. In the case of Southeast Asia, countries such as Indonesia, Malaysia and Brunei are net natural gas exporters while Indonesia and Vietnam export coal, with Indonesia being the world’s largest stem coal exporter. In spite of such resource availability, these countries have not been able to meet their domestic energy demand. The increasing dependence of Asian countries on fossil fuel imports as their economies rise is, in addition to being harmful to the environment, detrimental to their economic growth.

Challenges in Overcoming Energy Vulnerabilities

To address the energy vulnerabilities, promoting energy conservation, improving energy efficiency and encouraging the adoption of renewable energy would be of utmost importance. However, there are various challenges ahead. Firstly, there is the difficulty of finding alternative energy sources. This was the case for Northeast Asian countries such as Japan and South Korea during the 1970s oil crisis. Japan had promoted natural gas and nuclear energy on the supply front, and had encouraged conservation and energy efficiency efforts on the consumption front. However, as Japan had little energy reserves, it was not easy for it to diversify its energy sources. By 2009, oil from the Middle East accounted for 90 per cent of Japan's total oil consumption. Moreover, there was no sign of any East Asian regional cooperation moves to address this common dependency on external energy sources.

There is also the issue of national governance in effectively seeing through the shift to alternative energy sources. Ineffective policies and support systems have the potential to not only reduce the potential financial and energy savings from alternative sources of energy, but also to reduce consumer confidence in adopting them, thus causing a return to traditional sources of energy. The Philippine experience with nuclear energy as an alternative source is a telling example. Ineffective budgeting, insufficient environmental assessments and the lack of stakeholder buy-ins contributed to the limited success of the Bataan Nuclear Power Plant (BNPP). Plant construction took many years, and was bedevilled by cost overruns. In addition, the plant was completed in the midst of an anti-nuclear policy environment. In the end, the BNPP was never activated by the Philippines. However, a debt of over USD2.3 billion (the construction cost) had to be paid for by the government, even though the plant never produced a single watt of power. As a result, the state-owned National Power Corporation had to declare bankruptcy. The consequent privatisation of power generation led to the entry of different players, which exacerbated the risk of electricity shortages as there was no overarching system to coordinate maintenance programmes.

Crafting a Way Forward via Regional Cooperation

Despite the abovementioned challenges, it is possible to overcome the different energy vulnerabilities. Primarily, it is essential that the foundations for effective regional cooperation be laid. This would include reviewing national policies and monitoring regional circumstances.

Effective regional cooperation would be in part dependent on the degree to which states themselves are committed to adopting energy solutions such as introducing energy efficiency measures and investing in renewable energy sources. In policy terms, states should be cognisant of the following considerations:

- The benefits of diversifying a country's energy mix should not be assessed solely on the potential financial burdens in the short term, but should also consider social and environmental benefits in the medium and long term.
- Effective planning and accounting of costs should involve progressively shifting to cleaner sources of energy over the medium to long term. This would include viewing any switches to cleaner versions of traditional energy sources (such as liquefied natural gas from the Middle East) as stepping stones towards renewable sources of energy (such as solar and wind power produced locally).
- A commitment to energy efficiency policies would be necessary if sustainable development were to be achieved. This commitment should encompass devoting the necessary resources to technological upgrades and the monitoring of the various aspects of the energy cycle over the medium to long term. In addition, the concept of decentralised energy grids should be explored as decentralisation allows for financial costs to be shared and facilitates the delivery of energy to remote and less developed regions. Any implementation would have to be, however, accompanied by effective regulations and monitoring mechanisms.

There is also room for improved regional cooperation in tapping the opportunities available in the current evolving global circumstances. For instance, the emergence of newly liberalised economies could mean access to additional sources of energy. Russian crude oil export from the Pacific coast may provide an opportunity to change the market system as the growth in Russia's oil supply to Northeast Asian countries has increased pressure on the Asian premium. There are several reasons to consider Russian crude oil over Middle East oil. The Russian oil ports are geographically closer, therefore reducing transportation costs. The Russian market is also more flexible in responding to changes in the physical market. Furthermore, Russian crude oils are of high quality and low in sulphur, thereby reducing adverse environmental impacts.

Given such benefits, however, it is important that Asian countries do not fall into a situation of competing with one other for Russian crude oil, but rather pursue collaboration aimed at ensuring that countries in the region have equitable access to energy sources. A

collaborative approach could result in a lower oil price, and thus improved economic margins. In addition, the tangible economic benefits derived from pursuing the path of cooperation could serve as an incentive for Asian countries to improve regional relations. The following measures could enhance cooperation in the region:

- The relative strengths of regional neighbours should be identified, and an effective means of technology transfer from richer Asian countries to their poorer counterparts should be encouraged. For instance, Japan and South Korea could share their expertise in advanced nuclear and renewable energy technology with China, a country with huge market potential. In the ASEAN region, Singapore's research in the field of solar energy could be tapped by other countries.
- Countries could leverage on bilateral ties to boost multilateralism. In Northeast Asia, much of the cooperation is bilateral in nature, and these bilateral ties could serve to complement multilateral ones. The success of such efforts would, however, also be dependent on the level of transparency in trade and investment, the strength of political will and, more importantly, a decline in historical distrust. Other actors such as the business community and civil society also have a significant part to play in facilitating efforts towards multilateralism from the bottom up.

Prantl's research is aimed at developing key concepts of global security governance that can be used more widely. Dr Prantl was Visiting Fellow in the UN Studies Programme at Yale University, an International Fellow in the 21st Century Center of Excellence Program at Waseda University in Tokyo, and a Visiting Fellow at the Strategy and Defence Studies Centre at the Australian National University in Canberra. He also served in the Policy Planning Unit of the UN Department of Political Affairs and the Delegation of the European Commission to the United Nations in New York. Dr Prantl holds degrees in Political Science, Spanish, and History of Art from the University of Bonn (MA) and in International Relations from the University of Oxford (DPhil).

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The Centre for Non-Traditional Security (NTS) Studies at the S. Rajaratnam School of International Studies (RSIS), Nanyang Technological University (NTU), was inaugurated by the Association of Southeast Asian Nations (ASEAN) Secretary-General Dr Surin Pitsuwan in May 2008. The Centre maintains research in the fields of Food Security, Climate Change, Energy Security, Health Security, as well as Internal and Cross-Border Conflict. It produces policy-relevant analyses aimed at furthering awareness and building capacity

to address NTS issues and challenges in the Asia-Pacific region and beyond. The Centre also provides a platform for scholars and policymakers within and outside Asia to discuss and analyse NTS issues in the region.

In 2009, the Centre was chosen by the MacArthur Foundation as a lead institution for the MacArthur Asia Security Initiative, to develop policy research capacity and recommend policies on the critical security challenges facing the Asia-Pacific.

The Centre is also a founding member and the Secretariat for the Consortium of Non-Traditional Security Studies in Asia (NTS-Asia). More information on the Centre can be found at www.rsis.edu.sg/nts.